

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/676,910	LUDWIG, LESTER F.	
	Examiner Marlon T Fletcher	Art Unit 2837	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to application filed on 09/30/2003.
2.  The allowed claim(s) is/are 1-88.
3.  The drawings filed on 30 September 2003 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

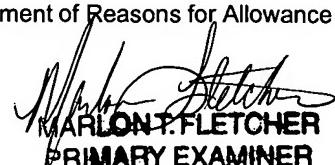
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_.
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.



MARLON T. FLETCHER  
PRIMARY EXAMINER

**DETAILED ACTION**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In claim 1, line 22, the phrase "and/or" is changed to - - and - -.

In claim 44, line 21, the phrase "and/or" is changed to - - and - -.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Note: The amendment was a minor informal matter. As written, the phrase "and/or" is indefinite. By replacing the phrase with "and", the recitation provides the option of "generating at least one of ... " a string processor control signal and the mixer control signal.

***Information Disclosure Statement***

1. The information disclosure statement filed 09/30/2003 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each

publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

1. The information disclosure statement filed 09/30/2003 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information. It has been placed in the application file, but the information referred to therein has not been considered.

When so many references are submitted for consideration, the applicant must provide a written explanation of the relevance of each reference.

2. The information disclosure statement filed 09/30/2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because all of the non-U.S. Patent references are not present in the application. It has been placed in the application file, but the information referred to therein has not been considered as to the merits.

Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

***Allowable Subject Matter***

3. Claims 1-88 are allowed.

4. The following is an examiner's statement of reasons for allowance:

This application is allowed, because the prior art fails to teach the claimed invention. While the prior art discloses a plurality of strings, string transducers, string processors, and production of an output of the signals from the processors, which are mixed, the prior art fails to disclose a plurality string signal processors, wherein each signal processor of said plurality of string signal processors shift the pitch of said electrical transducer signal according to a variable degree of pitch shift to generate an associated plurality of processed electrical signals, wherein at least one string processor control signal is used to vary a degree said pitch shift; further including a controllable mixer, wherein a mixer control signal is used to control said mixing; a plurality of physical controllers generating an associated plurality of physical controller signals in response to user operation and a control processor for generating said at least one string processor control signal and said mixer control signal according to a control signal algorithm responsive to one of said plurality of physical controller signals generated by the plurality of physical controllers.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are either references related to present invention by the same inventor or either provides a strings, string sensors, and string processors in association with each other:

Ludwig: 2004/0118268

2004/0099131

2004/0099129

2004/0099128

2004/0099127

2004/0099125

2004/0094021

2004/0074379

2004/0069131

2004/0069129

2004/0069128

2004/0069127

2004/0069126

2004/0069125

2004/0065187

2002/0056358

6,689,947

6,610,917

6,570,078

Marcus (2004/0007116)

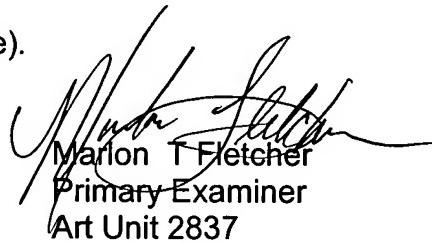
Ekhaus et al. (6,448,488)

Dame (5591931)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Marlon T Fletcher  
Primary Examiner  
Art Unit 2837



August 22, 2004